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|  | United Nations | ECE/ENERGY/GE.8/2021/2 |
| _unlogo | **Economic and Social Council** | Distr.: Generalxx April 2021Original: English |

**Economic Commission for Europe**

Committee on Sustainable Energy

**Group of Experts on Gas**

**Eighth session**

Geneva, 25-26 March 2021

 Report of the Group of Experts on Gas

 I. Introduction

1. The eighth session of the Group of Experts was held for two days on 25-26 March 2021, as a hybrid in-person/virtual event.

2. This report summarizes the discussions of the Group of Experts at its eighth session. All the documents and presentations of the session are available on the United Nations Economic Commission for Europe (ECE) website[[1]](#footnote-2).

 II. Attendance

3. The session was attended by more than 350 experts from the following United Nations Economic Commission for Europe (ECE) member States: Albania, Armenia, Austria, Azerbaijan, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Canada, Croatia, Cyprus, Czech Republic, Denmark, Finland, France, Georgia, Germany, Greece, Hungary, Ireland, Italy, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Malta, the Netherlands, North Macedonia, Norway, Poland, Portugal, Republic of Moldova, Romania, Russian Federation, Serbia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom of Great Britain and Northern Ireland, United States of America, and Uzbekistan.

4. Experts from Argentina, Australia, Brazil, Cameroon, Chad, the People’s Republic of China, Colombia, Comoros, Ecuador, Egypt, Ghana, Guatemala, India, Indonesia, Iran (Islamic Republic of), Iraq, Kenya, Kuwait, Lebanon, Libya, Madagascar, Malaysia, Mali, Mexico, Mongolia, Morocco, Namibia, New Zealand, Nicaragua, Nigeria, Pakistan, the Philippines, Qatar, Saudi Arabia, South Africa, Thailand, Uganda, United Arab Emirates, United Republic of Tanzania and Yemen participated under Article 11 of the Commission’s Terms of Reference.

5. Representatives of the United Nations Environment Programme (UNEP) attended. The European Union was represented. Representatives from the European Commission (EC), from the EC Directorate-General (D.G.) for Energy also participated.

6. Representatives of the following organizations participated: xxx, International Energy Agency (IEA), and International Renewable Energy Agency (IRENA).

7. The meeting also was attended by representatives of non-governmental organizations, academia and the private sector, as well as by independent experts.

 III. Adoption of the agenda (agenda item 1)

8. The Expert Group adopted the agenda as circulated previously (ECE/ENERGY/GE.8/2021/1).

 IV. Opening remarks and keynotes (agenda item 2)

9. In his opening remarks the Chair described the sequence of events during the session. He reminded the participants of the role of Group of Experts as a platform for the ECE member States to discuss sustainable and clean production, distribution, and consumption of gas in the region. The primary mandate of the Group of Experts is to help the ECE member States deliver on two key political commitments: (1) the 2030 Agenda for Sustainable Development, as outlined in the Sustainable Development Goals (SDGs), and (2) the Paris Agreement on climate change.

10. Though its current work, the Group of Experts is already engaged in reconciling the use of fossil fuels and the need to address the climate change. More could be done by expanding the scope of our work beyond natural gas into the domain of gases – including hydrogen and other decarbonized gases – as vectors of energy transmission. In this regard, the Group of Experts might explore the idea of ask the Committee on Sustainable Energy to change the name of the Group to the Group of Experts on Gases.

12. The President of the International Gas Union (IGU) Professor Kang stressed that the issues discussed today – the role of gas in the post-COVID recovery, gas and the Sustainable Development Goals, best practices in methane management, decarbonization through synergies between gas and electricity; and low-carbon gases, including hydrogen -- lie at the heart of the global debate about climate change and the role of energy. That debate is at a critical juncture. The energy debate in recent years was intense, but not much progress in aligning on how to meet the enormous challenges of decarbonisation, energy access and energy security. We may have an opportunity in the coming months – with President Biden’s Climate Summit, the G20 meeting under Italian presidency and COP26 under UK leadership.

13. As a worrying sign, the UN issued report on National Determined Contributions, covering 75 new Party Submissions showed that the combined impact of the new commitments would result in a less than one per cent emission reduction by 2030, far short of the 45 per cent needed to get on the 1.5C pathway. According to the IRENA report issued this month, US$131 trillion must be invested to cap the global warming by 1.5 degrees C by 2050. The International Gas Union believes an achievable transition is one that delivers clean, secure and affordable energy, using electrons and natural gas and hydrogen molecules, and the necessary infrastructure to help individual countries meet the UN Sustainable Development and Paris Goals. The International Gas Union believes decision-makers must accept that a clean, secure, and affordable energy future requires electrons, molecules, and infrastructure.

14. The representative of the Ministry of Energy and Mining of Serbia informed the participants about the development of National Energy and Climate Plans under Recommendation 2018/01/MC of the Energy Community. In line with this recommendation, the Republic of Serbia was obliged to develop and adopt these Plans for the period 2021 - 2030, including the projections to 2050, to ensure the consistency with long-term relevant policy objectives at the levels of the EU, the United Nations Framework Convention on Climate Change (UNFCCC) and the Energy Community. The draft law on amendments to the Law on Energy will define the obligation to develop the Integrated National Energy and Climate Plans, and thus a part of the "Governance" regulation has been transposed into the legislation of the Republic of Serbia. This document will define national targets for decarbonisation in terms of greenhouse gas emissions and energy from renewable sources, energy efficiency, energy security, the internal energy market and research, innovation and competitiveness.

15. Regarding natural gas, Serbia is a highly import-dependent country (in 2019, 84% of total gas demand was provided from imports). Having in mind the EU policy in the field of energy and climate, the role of gas in the process of energy transition of Serbia will certainly be considered in the process of decarbonisation of the economy. The projects within the Energy Community framework would include Serbia-Bulgaria, Serbia-Northern Macedonia and Serbia-Croatia gas interconnections.

16. The Deputy Executive Secretary of UNECE informed the participants about the principal commitments in sustainable energy: the 2030 Agenda for Sustainable Development and the Paris Agreement on climate change both of which set us on a path to carbon neutrality by 2050. Achieving the 2030 Agenda and delivering on the commitments of the Paris Climate Agreement is possible through integrated solutions that do not sacrifice one for the other. The work of the Group of Experts, and that of the Committee on Sustainable Energy, lies at the intersection of the two commitments and is key to achieving them both timely, economically and equitably. He observed that is in his view, the most important theme of the session is hydrogen, as a key to achieving carbon neutrality, especially in the hard-to-abate sectors. We must look, in an agnostic, open and neutral way, at all options of producing, transporting or using hydrogen. UNECE could provide a platform for such work.

 V. Elections of officers (agenda item 3)

11. The current Bureau, elected in September 2020 to serve from the close of the seventh session for two years, comprises: Mr. Francisco de la Flor (Spain) as Chair and
Mr Florian Marko (Austria), Mr. Loghman Damirli (Azerbaijan), Mr. Boris Maksijan (Croatia), Mr. Uwe Wetzel (Germany), Mr. Torstein Indrebø (Norway),
Mr. Dmitriy Shvedov, (Russian Federation), Ms. Denise Mulholland (United States), and
Mr. Luis Bertran (International Gas Union) as Vice-Chairs.

12. Two nominations, to serve from the close of the eighth session for two years, were received: Mr. Amir Foster (Israel) and Mr. Saša Stojanović (Serbia). The Group of Experts elected Mr. Foster and Mr. Stojanovic as Vice-Chairs of the Bureau.

13. The Group of Experts on Gas expressed its appreciation to the Bureau for its contribution to the deliverables of the 2020-2021 work plan.

 VI. Activities and priorities of the United Nations Economic Commission for Europe and its Executive Committee (agenda item 4)

xx. The Director of the Sustainable Energy Division Mr Foster updated the Group of Experts on the outcomes of the 2020 session of the Group’s parent body, the Committee on Sustainable Energy (CSE), and on the preparations for its 30th session of CSE in September this year. He informed the Group of Experts about the preparations for the Commission’s session – the Committee’s parent body – in April 2021, in which the CSE would play a very active role.

14. The Group of Experts noted the decision of the Committee on Sustainable Energy at its twenty-ninth session to request the Economic Commission for Europe at its sixty-ninth session to consider a decision on near-term acceleration of the 2030 Agenda for Sustainable Development through action on gases and buildings (ECE/ENERGY/133, paragraph 7).

[15. Noting that the ECE region is falling short of its commitments and objectives on sustainable energy, the Group of Experts concluded that its key contribution to achieving these objectives could be in two areas: (a) ~~deep transformation~~ of the energy system; and (b) reducing the environmental impact of energy.]

16. The Group of Experts actively participated in the preparation of the draft strategic review of the ECE sustainable energy subprogramme (ECE/ENERGY/2020/12) initiated at the twenty-ninth session of the Committee. The Group of Experts noted that its catalytic role in reconciling the reality of fossil fuels’ enduring share of the energy mix with the need to address climate change would be further strengthened if the scope of its work were to be expanded beyond natural gas into the domain of gases as vectors of energy transmission, including notably hydrogen and bio-gases. The Group of Experts requested the Bureau in cooperation with the secretariat to submit a proposal to change the name of the Group to the Group of Experts on Gases to the thirtieth session of the Committee.

17. In light of the above, the Group of Experts noted that its work on gases, including biogas/biomethane, bio-LNG and hydrogen, creates momentum to facilitate attainment of the environmental, social and economic goals of the 2030 Agenda for Sustainable Development. Interactions among governments and the private sector are key to achieving these objectives. The Group of Experts offered to provide a platform for such interaction.

 VII. Implementation of the current work plan (2020-2021) (agenda item 5)

18. The Group of Experts noted with appreciation the work of the Bureau and the secretariat to manage and direct the Group’s activities between annual sessions despite human and financial resource constraints and the unprecedented situation caused by the COVID-19 pandemic.

**(a) Gas-powered post-COVID-19 recovery as a step towards a decarbonized world**

19. The Group of Experts noted that the changes in work and life patterns caused by COVID-19 put energy infrastructure under enormous stress and energy markets experienced significant volatility. At the same time, the health crisis opened opportunities for accelerating the energy transition, including by blurring the line between consumers and suppliers of energy. The Group of Experts agreed to offer its assistance to member States in defining optimal paths of recovery from the current pandemic. Optimal paths towards a decarbonized world could be country-specific, minimizing overall emissions and increasing efficiency of energy use. Gas infrastructure will play an important role in this transition.

**(b) Role of gas in attaining the Sustainable Development Goals: air quality**

20. The Group of Experts thanked the International Gas Union for presenting case studies on the role of gas in improving urban air quality. The Group of Experts invited ECE member States to share experiences in improving air quality and offered its expertise to all interested countries and cities.

21. To meet tightening air standards in many countries and reduce pollution levels, the Group of Experts concluded that the key success factors will be:

(a) Improved access to natural gas supply.

(b) Improved monitoring and remediation of methane losses.

(c) Upgrade of bus fleets with natural gas-powered buses.

(d) Cleaning marine transport by developing LNG bunkering in city harbours.

**(c) Best practices in methane management in the gas sector**

22. The Group of Experts reiterated its strong support for declaration by the UN General Assembly of an International Decade for Methane Management. The Group of Experts agreed to liaise with the Global Methane Initiative (GMI) and other key stakeholders, and to seek support of UN Member States for such a declaration and collaborate on other efforts to mitigate methane. The Group of Experts recommended to set up a Task Force, together with the Group of Experts on Coal Mine Methane, GMI and other interested organizations and companies, to accelerate progress on adoption of such a Declaration and action that would follow should it be adopted.

**(d) Decarbonization through synergies between gas and electricity**

23. The Group of Experts acknowledged that the concept of gas(es) should be broader and include not only natural gas but also low carbon, decarbonized and renewables gases.

24. The Group of Experts recognized the critical role of gas(es) in decarbonizing the energy sector and achieving carbon neutrality by 2050. Technology development, together with economies of scale, will foster deployment of progressively decarbonized gases.

25. The Group of Experts concluded that existing and new gas infrastructure – transmission, distribution, underground storage, and facilities to manage liquefied gases – will be the backbone (core network) of a future low-carbon energy system that contributes cost-effectively to decarbonization.

26. The Group of Experts concluded that a future decarbonized energy system could represent an optimal combination of “electrons and molecules”, in which the electricity and gas sub-systems are progressively more interlinked, increasing the share of renewable energy, either as electricity or as gas.

27. The Group of Experts on Gas concluded that the gas industry and gas infrastructure, through energy system integration, would play a crucial role in the transition to a decarbonized economy.

11. The representative of European Commission (DG ENER) (Mr Pedro Ballesteros Torres) informed the participants about the European Union’s Green Deal that set the ambitions but realistic target to reduce significantly carbon dioxide (CO2) emissions by 2030 and become net carbon zero by 2050. The decarbonization policies of the European Commission (EC) focus first on energy efficiency and then decarbonization, while paying attention to transport and industry sectors. Given the strong social impact of the energy transition – the EC envisioned and allocated substantial funds to “just transition”. The transition to a decarbonized EU should not only bring the region to a greener but also to a fairer social reality. Hydrogen Strategy, presented in July, was part of the Green Deal. It focused on renewable hydrogen that the EC predicted to become competitive by 2030. Hydrogen is expected to play an increasingly important role in the aftermath of the current pandemic. The EC is very much interested in collaboration with other ECE member States in this field.

28. The Group of Experts stressed the need to scale up projects on carbon capture and storage (CCS) in Europe. In this regard, the Group of Experts welcomed the December 2020 investment decision of the Norwegian parliament to fund “Longship”, a commercial scale CCS project. This project demonstrates how, through economies of scale, barriers to implementing future CCS projects in ECE member States can be reduced. The Group of Experts offered its assistance in disseminating the knowledge and technology needed for large-scale CCS projects.

**(e) Hydrogen**

29. The Group of Experts agreed that all technological and financial options for hydrogen production, transmission, storage and use should be considered agnostically and discussed from a level playing field perspective.

30. The Group of Experts concluded that retrofitting (blending) and repurposing existing natural gas infrastructure would accelerate the transition to a future hydrogen economy in a cost-effective way.

31. The Group of Experts agreed to offer its support to facilitate international and cross-sectoral collaboration to increase awareness and public acceptability of hydrogen and to accelerate the transition to a future hydrogen economy in the ECE region and beyond.

32. The Group of Experts welcomed the outcomes of the online workshop “Attaining Carbon Neutrality: The Role of Hydrogen”, held on 24 March 2021. In particular, the case study “Roadmap for production and use of hydrogen in Ukraine” presented at the workshop may serve as a model to other member States on how to develop pilot projects for production and use of hydrogen.

xx. The 24 March webinar on hydrogen discussed the hydrogen value chain in three parallel breakout sessions covering production, transport/storage, and use of hydrogen. The following paragraphs give a summary of discussion. A detailed report from the workshop on 24 March will be published separately.

xx. The breakout session on production agreed, among other things, that all low-carbon technologies should be considered through a technology neutral approach, with a focus on efficient emission reduction, life-cycle carbon footprint and carbon dioxide abatement costs. Promoting research and innovation in all hydrogen technologies is crucial. In the view of the above the breakout session on production recommended, as a policy, to design and implement supportive mechanisms like Guarantees of Origins across UNECE regions, to address initial green premium before learning-by-doing and scale effects ensure a further cost reduction for clean hydrogen projects. In terms of finance, the session on production recommended to elaborate and implement innovative risk sharing schemes between public and private investors to finance clean hydrogen production projects. To the industry the session recommended to ensure and contract long-term offtake commitments for clean hydrogen produced for industrial, transportation, heating and e-fuels projects. Strategies containing realistic targets should be developed at global, regional and national levels. In this sense, the breakout session on production suggested to strengthen cross-border cooperation with UNECE support through strategies based on realistic targets.

xx. The breakout session of transport and storage of hydrogen reaffirmed that all technological and financial options for transport and storage of hydrogen should be considered from a technologically neutral perspective, through a life-cycle analysis approach. The breakout session noted that the transition to a future hydrogen economy needs to be cost-effective; in this sense, the retrofitting and repurposing of existing natural gas infrastructure would accelerate the transition. Such approach would also minimise the “not-in-my-backyard” (NIMBY) effect when new infrastructure is built. The role of storages is essential to compensate for modulation and seasonality. There is a need for adoption of high-level regulatory principles based on the current regulatory framework for gas. There is a need of large projects connecting hydrogen production areas to consumption areas (i.e. from south to north of Europe) to scale-up the deployment of hydrogen economy. The breakout session on storage and transport further noted that UNECE has a relevant role to play in addressing the inherent the international dimension of hydrogen, especially by providing information and recommendations that facilitate the connection between production and consumption centres, which are often located in different regions.

xx. The breakout session on use of hydrogen reaffirmed that “clean” hydrogen (produced from renewable energy or from gas with CCS) could cut the anthropogenic emissions by 45 to 60 per cent and also decarbonize hard-to-abate sectors – long-haul transport, steel and chemicals production, heating, ammonia, and long-term power storage. The strong push for hydrogen on the road by 2030 across the United States and Western Europe may put around 9 million fuel cell vehicles on the road. The breakout group on use further noted that the industry could be the main early adopter. Existing and new hydrogen applications could be a catalyst for early deployment. Industrial applications for steel, cement and high-temperature applications should be supported and incentivised.

33. Following the twenty-ninth session of the Committee on Sustainable Energy at which the document “Hydrogen – an innovative solution to carbon neutrality” (ECE/ENERGY/2020/8) was presented, the Group of Experts stressed the importance of operationalizing the recommendations outlined in this document. The Group of Experts agreed that the most important among the recommendations are to:

 (a) Agree a comprehensive and science-based terminology for renewable, decarbonized and low-carbon hydrogen and to use the agreed terminology to adapt national legal definitions and to provide a clear taxonomy to provide legal certainty and to foster collaboration and investment flows.

 (b) Develop tradeable Guarantees of Origin for Hydrogen (GOH) to decouple physical and commercial flows and thereby accelerate hydrogen deployment. The Group of Experts offered its assistance to member States in developing GOH or similar mechanisms.

 (c) Accelerate deployment of electrolysers. The Group of Experts offered its assistance to member States in this regard.

 (d) Support technical neutrality in the efforts to scale up and develop robust value chains.

33a. Leveraging the existing gas infrastructure is essential to achieve the decarbonisation targets set by the EU at an optimum cost. Additionally, the support and commitment of local, regional and national governments is key, as well as the implementation of funding instruments, in order to develop sustainable, scalable and replicable ecosystems. The Group of Experts welcomed the project EU-funded GREEN HYSLAND project which seeks to deploy a comprehensive and scalable hydrogen (H2) ecosystem on the island of Mallorca, Spain. The project will provide green H2 to multiple end-uses and aims to become a blueprint for other territories within the UNECE region.

 **(f) Sustainable production and consumption of gas and liquefied natural gas (LNG)**

34. The Group of Experts welcomed the General Assembly Resolution [A/RES/75/22](https://undocs.org/en/A/RES/75/221), adopted on 21 December 2020 that, inter alia, “recognizes the key role that natural gas currently plays in many countries and its potential to expand significantly over the coming decades to meet demand in some countries as well as in new sectors, such as the transportation sector, supporting transitions towards lower-emission energy systems, and calls upon Governments to enhance energy security through the sharing of best practices and knowledge for the security of gas supply and demand.”

35. In the light of the above, the Group of Experts welcomed the increased number of recently completed pipelines and LNG installations that will improve gas supply and energy security in Europe significantly, particularly in South-east Europe.

36. The Group of Experts recommended to ECE member States to consider exploring innovative policy approaches that would harness new supplies of LNG sustainably, decarbonize society, and improve competitiveness of the economy during the post-COVID recovery.

37. The Group of Experts concluded that new gas projects would catalyse job creation and foster just transition, social development, inclusiveness and innovation. [In this transition, renewable and low carbon gases should play a pivotal role.]

**(g) Update on gas in transport project**

38. The Group of Experts welcomed the progress in implementation of the extrabudgetary project funded by the Russian Federation “Improving capacities of the ECE member States to decarbonize the transport sector”, including the inaugural workshop held in December 2020. The Group of Experts noted that the project will enhance the capacity of ECE member States to develop infrastructure to harness the benefits of natural gas in transportation as a viable low-carbon alternative fuelling option and to improve air quality.

39. The Group of Experts noted with appreciation the project’s key recommendations. In this regard, the Group of Experts invited ECE member States to consider introducing a comprehensive programme for development of a natural gas vehicle (NGV) market in different segments of the transport sector, such as private cars, buses, heavy trucks, construction and communal machinery, agricultural and quarry machinery, railway transport, and water transport.

40. The Group of Experts concluded that technical regulations for NGVs require harmonization between ECE member States. The regulatory harmonization could include creation of a unified interstate register of cylinders to control their circulation in countries and simplification of procedures for the final consumer when crossing borders.

41. The Group of Experts welcomed the project proposal under development “Decarbonizing transport – a life cycle analysis” that would explore, from an energy perspective, different paths to a future decarbonized and sustainable transport system. The Group of Experts committed to participate in this ECE cross-divisional effort.

 VII. Presentation of results and recommendations of the project “Pathways to Sustainable Energy” (agenda item 6)

42. The Group of Experts took note of the Committee’s recommendations to continue cooperating closely with the Group of Experts on Renewable Energy and the Group of Experts on Cleaner Electricity Systems on synergies between renewable energy and gas and to assess the role of decarbonized gases, including hydrogen, across ECE subregions (ECE/ENERGY/123 and ECE/ENERGY/2020/2).

43. The Group of Experts noted with appreciation the progress made in implementation of the project “Enhancing understanding of the implications and opportunities of moving to carbon neutrality in the UNECE region across the power and energy intensive industries by 2050” (“Carbon Neutrality”) and agreed that the Group will continue to cooperate closely with other group of experts on this important topic and provide its technical support to further implementation of the project.

 VIII. Item 7: Emerging issues and work plan for 2022-2023
(agenda item 7)

44. The Group of Experts agreed to its draft work plan for 2022-2023, as presented in GEG-8/2021/INF.2 and requested the secretariat to submit it to the thirtieth session of the Committee on Sustainable Energy for approval. The Group of Experts invited ECE member States to support this ambitious work plan with additional extrabudgetary and in-kind resources where possible, which would extend the scope and deepen the impact of the activities included in the draft work plan.

45. Noting that its mandate expires on 31 December 2021, the Group of Experts agreed to recommend to the Committee that its mandate be renewed for a further two years to 31 December 2023.

 IX. Preparations for the ninth session of the Group of Experts on Gas (agenda item 9)

46. The Group of Experts recommended the following topics for the substantive portion of its ninth session: [to be decided at the meeting].

47. The Group of Experts recommended that the ninth session of the Group of Experts be held on 24 and 25 March 2022 in Geneva.

 X. Adoption of the report and close of the meeting
(agenda item 12)

48. The report of the meeting was adopted, including the conclusions and recommendations, subject to any necessary editing and formatting.

1. <https://unece.org/sustainable-energy/events/eighth-session-group-experts-gas> [↑](#footnote-ref-2)